FEMP 24
Renewable Energy Technology Applications
Solar Thermal and Concentrating Solar Power Technology

Solar energy technologies can help federal sites meet agency goals and legislative mandates, improve energy security, and reduce environmental impact while efficiently providing electricity, heating, cooling, and other applications.

The course covers sourcing and selecting cost-effective solar thermal and concentrating solar power (CSP) technologies and common implementation considerations.

By taking this course, learners will be able to:

- Understand geographic/climate considerations for solar thermal and CSP technology capabilities and constraints, and evaluation of various technology options.
- Identify transpired solar collectors, solar ventilation air preheat components, solar hot water heating applications and components, and advantages and limitations of collector types.
- Understand the different operating principles of parabolic trough, linear Fresnel, power tower, and dish engine CSP systems.
- Assess factors to integrate solar thermal and CSP into larger energy systems.

Instructor
The instructor for this series is Andy Walker, PhD, Principal Engineer at the National Renewable Energy Laboratory. At NREL, Dr. Walker conducts engineering and economic analysis of renewable energy projects for FEMP and other non-governmental clients. Dr. Walker is an instructor and has authored more than 28 book chapters, journal articles, and papers. He holds a bachelor's of science degree, a master's of science degree, and a doctorate degree in mechanical engineering from Colorado State University and is a registered Professional Engineer in the State of Colorado.